UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

PLEXXIKON INC.,

Plaintiff,

v.

NOVARTIS PHARMACEUTICALS CORPORATION,

Defendant.

Case No. 17-cv-04405-HSG

**ORDER GRANTING IN PART AND DENYING IN PART MOTIONS FOR JUDGMENT AS A MATTER OF LAW; DENYING MOTION FOR ENHANCED DAMAGES; AND GRANTING MOTION FOR ONGOING ROYALTIES AND INTEREST**

Re: Dkt. Nos. 545, 554, 559, 582, 585, 586

Pending before the Court are the parties' post-trial motions, following an eight-day jury trial. Plaintiff Plexxikon Inc. and Defendant Novartis Pharmaceuticals Corporation each moved for judgment as a matter of law during the trial. *See* Dkt. Nos. 545, 554, 559. The jury returned its verdict, finding that Novartis willfully infringed each of the asserted claims of the U.S. Patent Nos. 9,469,640 ('640 Patent) and 9,844,539 ('539 Patent); that the asserted claims were not invalid; and that Plexxikon was entitled to damages of $177,792,640.01.

Novartis renewed its motion following the trial, and in the alternative, moved for a new trial or remittitur. *See* Dkt. No. 582. Plexxikon, as the prevailing party at trial, moved for enhanced damages and for ongoing royalties. *See* Dkt. Nos. 585, 586. The Court finds these matters appropriate for disposition without oral argument and the matters are deemed submitted. *See* Civil L.R. 7-1(b). For the reasons detailed below, the Court **TERMINATES AS MOOT** Plexxikon's motion for judgment as a matter of law, Dkt. No. 554; **GRANTS IN PART** and **DENIES IN PART** Novartis' motions for judgment as a matter of law, Dkt. Nos. 545, 559, 582; **DENIES** Plexxikon's motion for enhanced damages, Dkt. No. 585; and **GRANTS** Plexxikon's motion for ongoing royalties and interest, Dkt. No. 586.

## I. MOTIONS FOR JUDGMENT AS A MATTER OF LAW AND MOTION FOR NEW TRIAL

During the nearly two-week trial, each party moved for judgment as a matter of law under Federal Rule of Civil Procedure 50(a). *See* Dkt. Nos. 545, 554, 559. Novartis renewed its motions and, in the alternative, requests a new trial under Federal Rule of Civil Procedure 59. *See* Dkt. No. 582.

### A. Legal Standard

"[A] party must make a Rule 50(a) motion for judgment as a matter of law before a case is submitted to the jury. If the judge denies or defers ruling on the motion, and if the jury then returns a verdict against the moving party, the party may renew its motion under Rule 50(b)." *Equal Emp't Opportunity Comm'n v. Go Daddy Software, Inc.*, 581 F.3d 951, 961 (9th Cir. 2009). In considering a Rule 50(b) motion that reasserts arguments presented in a Rule 50(a) motion, a court must uphold the jury's verdict if "substantial evidence" supports the jury's conclusion. *Castro v. Cty of L.A.*, 833 F.3d 1060, 1066 (9th Cir. 2016). Substantial evidence means "evidence adequate to support the jury's conclusion, even if it is also possible to draw a contrary conclusion" from the same evidence. *Id.* (quotations omitted). A court should only grant a Rule 50(b) motion if, after construing all evidence in the light most favorable to the nonmoving party, the record "permits only one reasonable conclusion, and that conclusion is contrary to the jury's verdict." *Id.* (quotations omitted).

A court may grant a new trial under Rule 59 "if the verdict is contrary to the clear weight of the evidence, or is based upon evidence which is false, or to prevent, in the sound discretion of the trial court, a miscarriage of justice." *United States v. 4.0 Acres of Land*, 175 F.3d 1133, 1139 (9th Cir. 1999) (quotation omitted). Unlike on a motion for a judgment as a matter of law, when considering a motion for a new trial, the Court "can weigh the evidence and assess the credibility of witnesses, and need not view the evidence from the perspective most favorable to the prevailing party." *Landes Constr. Co. v. Royal Bank of Canada*, 833 F.2d 1365, 1371 (9th Cir. 1987). However, a motion for new trial should not be granted "simply because the court would have arrived at a different verdict." *Pavao v. Pagay*, 307 F.3d 915, 918 (9th Cir. 2002).

//

**B. Discussion**

Novartis raises several arguments in support of its request for judgment as a matter of law under Rule 50(b) or a new trial under Rue 59. *See* Dkt. No. 582. Novartis repeats many of the arguments raised at summary judgment, in the parties' motions in limine, and as part of the proposed jury instructions. At bottom, Novartis urges that the '640 Patent and '539 Patent "are vast chemical genuses encompassing trillions and trillions of compounds," and that no reasonable jury could have concluded that the asserted claims are valid. *See* Dkt. No. 582 at 1. Novartis further argues that no reasonable jury could have concluded that it willfully infringed Plexxikon's patents, and the $177,792,640.01 damages award is illegal and excessive. *Id.* at 25–40. To the extent Novartis' arguments simply repeat arguments it made previously, the Court declines the invitation to reconsider any of its prior orders.

**i. Anticipation and Obviousness**

Novartis contends that the patents-in-suit are anticipated or rendered obvious by three compounds that GSK synthesized in 2007. *See* Dkt. No. 582 at 3–14. Plexxikon responds that it is entitled to a March 10, 2005 priority date, and thus the GSK compounds are not prior art and cannot invalidate the claims. *See* Dkt. No. 598 at 2–17. Accordingly, a key question at trial—and in Novartis' motions for judgment as a matter of law—is whether Plexxikon is entitled to a March 10, 2005 priority date. Novartis claims Plexxikon is not entitled to this earlier priority date on multiple grounds.

**a. Operative Method of Making Claimed Invention**

The parties appear to agree that "conception requires (1) the idea of the structure of the chemical compound, and (2) possession of an operative method of making it." *Oka v. Youssefyeh*, 849 F.2d 581, 583 (Fed. Cir. 1988); *see also* Dkt. No. 582 at 5 and Dkt. No. 598 at 2–3. Novartis first contends that it is entitled to judgment as a matter of law because Plexxikon "failed to produce evidence that the inventors possessed an operative method of making compounds within the claimed genuses where $L_1$ is a bond" as of the March 10, 2005 date.

As an initial matter, Plexxikon argues that Novartis waived this argument. *See* Dkt. No. 598 at 4–6. Plexxikon points out that ultimately Novartis did not request a specific jury

instruction about possession of an operative method for making the claimed invention and did not articulate this argument at trial or in its oral motion for judgment as a matter of law. *Id.* Plexxikon argues that as a result, it was not on notice that this was a disputed issue in the case. *Id.* The Federal Circuit has noted that it "is often the case" that "a method of making a compound with conventional techniques is a matter of routine knowledge among those skilled in the art, . . . and the question of whether the conceiver was in possession of a method of making it is simply not raised." *Oka*, 849 F.2d at 583. Because Novartis did not elicit any testimony or adduce any evidence on this defense during the trial, Plexxikon says it assumed that the "operative method" was not in dispute.

The first time Novartis raised this argument was in its written Rule 50(a) memorandum filed the morning of closing arguments. *See* Dkt. No. 559. In the motion, Novartis simply stated that "no reasonable juror could find that Plexxikon's inventors possessed the idea of the invention's structure *and* an operative method of making it" because "the evidence failed to support a finding that the Plexxikon inventors were in possession of an operative method of making compounds of the claimed chemical genera where $L_1$ is a bond by March 2005." *See id.* at 7 (emphasis in original).

Novartis nevertheless argues that it did not waive this argument. *See* Dkt. No. 602 at 3–4. Novartis notes that even if the jury instructions did not highlight this specific issue, it may raise legal arguments that were not specifically detailed in the instructions. Dkt. No. 602 at 3–4. Novartis cites the Ninth Circuit opinion in *Air-Sea Forwarders, Inc. v. Air Asia Co.*, which held that "a party's failure to object to relevant jury instructions does not prevent it from challenging the sufficiency of the evidence on a legal basis different from that contained in the instructions." *Id.* (citing *Air-Sea Forwarders, Inc. v. Air Asia Co.*, 880 F.2d 176, 182 (9th Cir. 1989)). That is true as far as it goes. But the Court in *Air-Sea Forwarders* did not address the question of waiver or even what is required to preserve an issue properly.

As to this question, Novartis responds that it sufficiently preserved the "operative method" argument by including it in its written Rule 50(a) motion. *See* Dkt. No. 602 at 3–4. Novartis states that its motion was timely because the Rule simply requires that "[a] motion for judgment as

a matter of law [] be made at any time before the case is submitted to the jury." Fed. R. Civ. P. 50(a)(2). And it did so. Novartis argues that it followed the technical requirements of Rule 50, and that is enough.

Plexxikon does not cite any cases in which a court found that a timely Rule 50(a) motion was insufficient to preserve an issue for post-trial motions. *Cf. W. Union Co. v. MoneyGram Payment Sys., Inc.*, 626 F.3d 1361, 1367 (Fed. Cir. 2010) ("We have held that even a cursory motion suffices to preserve an issue on JMOL so long as it serves the purposes of Rule 50(a), *i.e.*, to alert the court to the party's legal position and to put the opposing party on notice of the moving party's position as to the insufficiency of the evidence."). The Court understands Plexxikon's concern that this approach may invite gamesmanship, but it has not cited sufficient authority for the Court to conclude that Novartis waived its argument by failing to raise it earlier. Moreover, even if Novartis' Rule 50(a) motion was inadequate to preserve the issue for its post-trial motion, it may still seek review of the verdict under Rule 59.

In any event, the Court need not resolve the question of waiver because there was substantial evidence supporting the jury's findings. Plexxikon explains that even in 2005 the method of making the claimed compounds where $L_1$ is a bond was "a matter of routine knowledge," *Oka*, 849 F.2d at 583, and only required ordinary skill in the art. *See* Dkt. No. 598 at 3–4. Specifically, Plexxikon states that the evidence shows that the inventors knew how to make a bond at position $L_1$ using the Suzuki reaction. *Id.* This evidence includes:

- Novartis' own expert, Dr. Phil Baran, acknowledged that chemists have means to create direct bonds. *See* Dkt. No. 570 ("Trial Tr. V") at 868:12–23. He specifically stated that the Suzuki reaction is one of these tools to make direct bond connections, and that it is very well known in the field and "has been the subject of thousands of publications." *Id.* at 868:16–870:8, 871:1–2, 951:9–11. He said it was developed in 1978, and "they use it in industry quite a bit." *Id.* at 869:19–24, 870:23–25. He further noted that he thought it would be possible to create Tafinlar—the infringing product—with a version of the Suzuki reaction. *Id.* at 872:4–6.
- Dr. Zuosheng Liu, a chemist from the Novartis Research Foundation, testified that in

his work on BRAF inhibitors, beginning in 2007, he used the Suzuki reaction. *See* Dkt. No. 588 ("Trial Tr. IV") at 624:23–625:14. As he explained, "we do a lot of Suzuki coupling." *Id.* at 14.

- As part of this litigation, Plexxikon worked with chemists in a lab to synthesize Tafinlar where $L_1$ is a bond, and used the Suzuki reaction to do so, indicating that it is possible. *See* Trial Tr. V at 950:18–952:10.
- Dr. Baran also acknowledged that Plexxikon's chemists who synthesized Tafinlar in the lab where $L_1$ was a bond "did not use any techniques that weren't in the literature in 2005." *See id.* at 949:12–951:8.
- The inventors also included a method for making a bond at $L_1$ using the Suzuki reaction in their 2007 draft application. *See* Trial Tr. V at 871:9–14; Trial Exhibit 10 at 377–81. When considered in the context of the rest of the evidence, this too suggests that the inventors possessed the operative method of making the claim in March 2005.

The Court finds that this evidence was sufficient for the jury to conclude that the operative method of making the claimed invention was "a matter of routine knowledge," even in 2005. *See Oka*, 849 F.2d at 583.

**b. Conception Testimony**

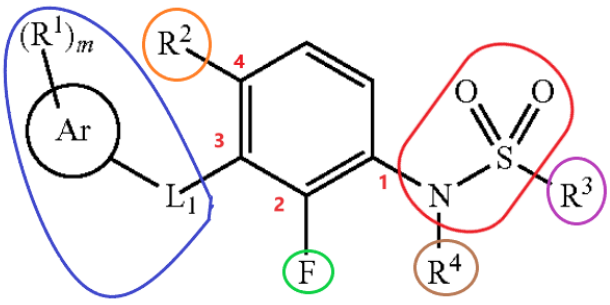
Novartis next argues that the testimony provided at trial was insufficient to support a finding that the inventors had conceived of the claimed invention as of March 10, 2005. *See* Dkt. No. 582 at 6–8. Conception is "the formation in the mind of the inventor, of a definite and permanent idea of the complete and operative invention, as it is hereafter to be applied in practice." *See Allergan, Inc. v. Apotex Inc.*, 754 F.3d 952, 967 (Fed. Cir. 2014). Novartis contends that the testimony at trial at most established that the inventors had a "definite and permanent idea" only as to *part* of the claimed invention—a new "scaffold" as it was referred to during trial. *See* Dkt. No. 582 at 6–8. But Novartis urges that the inventors did not have a definite and permanent idea as to the moieties that would go on either side of this scaffold. These remained unidentified variables back in 2005. *Id.* Novartis also appears to argue that it would

have been impossible for the inventors to have such a definite idea given "[t]he trillions of chemical moieties that could be included on either side of the 'scaffold' in this broad chemical genus . . . ." *Id.* at 7.

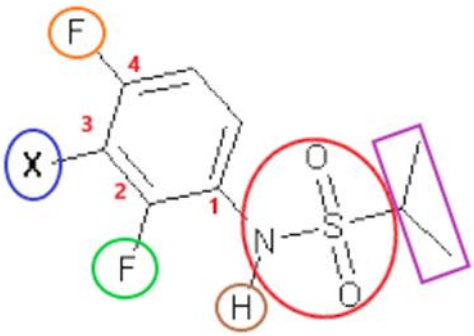
Novartis' argument discounts the testimony presented at trial. Plexxikon's scientists testified that in March 2005 they had conceived of not just the fixed "scaffold," but also the claimed options for each of the variables on either side of the scaffold. In its motion, Novartis appears to concede that the trial testimony established that the inventors had conceived of at least the scaffold in 2005. *See* Dkt. No. 582 at 6 (stating that "[t]he inventor testimony and corroborating evidence established that the only "definite and permanent idea" the inventors possessed as of March 10, 2005 was . . . a new 'scaffold'"). This is supported by the evidence presented at trial. Dr. Chao Zhang, for example, testified at length about an email sent from Dr. James Tsai to Dr. Zhang and other colleagues, entitled "new scaffold." *See* Dkt. No. 567 ("Trial Tr. III") at 424:9–15, 425:4–430:12; *see also* Trial Exhibit 48. Dr. Zhang described the "novel thinking behind this idea," including how the scientists arrived at this new scaffold in their BRAF research. *See* Trial Tr. III at 424:9–15, 425:4–430:12. Dr. Prabha Ibrahim similarly testified that this "new scaffold" was "a phenyl group that has a sulfonamide, a fluorine, and a point of attachment arranged in 1, 2, 3 orientation." *See id.* at 504:2–505:1.

The Court previously created a graphic to illustrate the difference between the figures in the 2005 "Chao idea" email and the asserted patents:

**Claim 1 of the Asserted Patents**




**March 2005 Email Final Drawing**



*See* Dkt. No. 450 at 12. As presented at trial, the email depicts a phenyl ring attached to a sulfonamide at the "1" position and a fluorine in the "2" position. It also shows a hydrogen as $R^4$. Novartis argues, however, that the email does not show conception of the monocyclic heteroaryl group, which is referred to generally in the email as "X," or the other variables.

During trial, Dr. Zhang explained how the March 2005 idea was not limited to a single compound, but instead "cover[ed] a group of molecules." *See* Trial Tr. III at 431:4–6. Still, he and Dr. Ibrahim explained what they had conceived of in 2005 for each of the variable locations in the molecule (*i.e.*, Ar, $R^1$, $L_1$, $R^2$, and $R^3$ in the claimed invention above). *See id.* at 434:15–435:5. Dr. Zhang, for example, explained that they envisioned the Ar group to be a monocyclic heteroaryl (as in the claims), that it could be connected to the rest of the molecule by a bond or linker, and that the Ar group could be attached to optionally substituted lower alkyls or heteroaryls (as $R^1$ is defined in the claims). *Id*. at 434:15–435:5; *see also* Dkt. No. 573 ("Trial Tr. VIII") at 1488:25–1490:1. Dr. Zhang further explained the motivation behind these choices, including the desire to find groups that would better interact with the hinge of the kinase. *See, e.g.*, Trial Tr. VIII at 1489:10–18. When counsel for Novartis suggested that the inventors had not worked out all the specific possibilities for the variables back in 2005 and suggested that they "could be anything," Dr. Ibrahim disagreed. *See* Trial Tr. III at 507:6–510:4. She explained that they "ha[d] an idea about what these functional groups need to be" and "how they are connected to this new scaffold." *Id.*

Novartis' argument essentially asks the Court to reweigh the evidence, and find that despite this testimony Plexxikon could not have had "a definite and permanent idea" of the entire invention. But that is not the Court's role. The Court further notes that Novartis appears to drop this argument in its reply brief. *See generally* Dkt. No. 602.

**c. Corroboration of Conception**

Even if the testimony at trial was sufficient, Novartis urges that Plexxikon failed to corroborate this testimony about conception with other evidence. *See* Dkt. No. 582 at 8–9. Because conception is a mental act, an inventor's testimony alone is insufficient to prove conception absent corroboration. *NFC Tech., LLC v. Matal*, 871 F.3d 1367, 1371 (Fed. Cir.

2017). However, "[t]here is no particular formula that an inventor must follow in providing corroboration," which is evaluated under a flexible "rule of reason" that considers "all pertinent evidence." *See Singh v. Brake*, 317 F.3d 1334, 1341 (Fed. Cir. 2003). "[T]he law requires only that the corroborative evidence, including circumstantial evidence, support the credibility of the inventors' story." *E.I. du Pont De Nemours & Co. Unifrax I LLC*, 921 F.3d 1060, 1076 (Fed. Cir. 2019).

As noted above, Plexxikon introduced the March 15, 2005 "Chao's idea" email at trial. *See* Trial Exhibit 48. Novartis first argues that this email cannot corroborate the inventors' conception date because it was generated by the inventors themselves rather than by a third party. *See* Dkt. No. 582 at 8. None of Novartis' cases stand for that sweeping proposition. And it is difficult for the Court to understand what kind of corroborative evidence Novartis believes is required if authenticated and contemporaneous emails are insufficient. Still, Novartis acknowledges that it did not raise this specific argument before, but instead argued more broadly that Plexxikon's "reliance on a single document to corroborate its alleged conception fails in light of the totality of the evidence." *See* Dkt. No. 602 at 4 (quoting Dkt. No. 559, motion for judgment as matter of law under Rule 50(a)). That was not "ambiguous" or "inartful" as Novartis suggests, *see id.*, but instead was an entirely different argument from the one it is asserting now. The Court finds that Novartis has therefore waived this argument and the Court need not address it here.

More substantively, Novartis argues that the Chao's idea email does not disclose all the claimed variables, so it is not sufficient to corroborate the inventors' testimony. *See* Dkt. No. 582 at 8–9. Again, Novartis appears to be overreaching. By requiring that the email disclose all the claimed variables, Novartis appears to demand corroboration evidence that is more rigorous than what is required under the rule of reason. As the Federal Circuit has explained the "case law does not require that evidence have a source independent of the inventors on *every* aspect of conception and reduction to practice . . . ." *Unifrax*, 921 F.3d at 1077 (emphasis added). It is enough that the evidence "support[s] the credibility of the inventors' story." *Id.*

Here, the email includes both a written description and several drawings of molecules. *See* Trial Exhibit 48. Plexxikon's expert, Dr. Michael Metzker, walked through this email during his

testimony, providing an illustration of what was being discussed. He also explained how the email corresponded to the asserted claims, thus indicating that the inventors had conceived of the invention back in 2005. For example, the email states that "Chao's first suggestion at X is a Pyr." *See id.* Dr. Metzker explained that "Pyr" stands for a pyridine—which is a monocyclic heteroaryl. *See* Trial Tr. VIII at 1458:10–1460:22, 1461:5–1462:3, 1464:12–19. The email also states that the ketone linker, $L_1$, "does not need to stay," which Dr. Metzker interpreted to mean it could also be a direct bond. *See id.* This is consistent with the testimony that the inventors offered at trial regarding this same email and their conception of the invention in 2005. *See, e.g.*, *id.* at 1488:25–1490:1, 1495:20–1496:6; *see also* Trial Tr. III at 425:11–428:22.

Novartis responds that the email merely "describes a vast, undefined chemical genus." *See* Dkt. No. 602 at 5. But the Court's task is not to decide whether Plexxikon's proffered explanation of the email is the only or even the best interpretation. The jury sat through days of testimony about the meaning of the Chao's idea email and ultimately agreed with Plexxikon. Interpreting the evidence in the light most favorable to Plexxikon, as the Court must, there is sufficient evidence upon which a reasonable jury could conclude that the email corroborates the inventors' explanation that Plexxikon had conceived of the claimed invention in March 2005.

Moreover, the Chao's idea email was not the only corroborating evidence that Plexxikon proffered at trial. Plexxikon presented evidence that it synthesized a molecule within the scope of the claims at issue in this case just three days after the email was sent. *See* Trial Tr. V at 918:7–16, 979:6–980:5, 981:11–19; *see also* Trial Exhibit 51; Trial Exhibit 400 at row 50; Trial Exhibits 45, 50, 52, 124. Novartis responds that these documents discuss a single synthesized compound, and that a single compound cannot "corroborate conception of the vast claimed genus of trillions of compounds." *See* Dkt. No. 602 at 6. But the rule of reason asks the Court to consider all pertinent evidence, and synthesizing a compound that falls within the asserted claims just days after the Chao idea email was circulated adds further support to the inventors' testimony about the date of conception.

Plexxikon also introduced its 2007 draft patent applications, which it states show the entire claimed genus, including each of the variables. *See* Trial Exhibits 10, 155, 156. Dr. Metzker

again offered testimony about these documents, and why he believes they support conception as of 2005. *See* Dkt. No. 572 ("Trial Tr. VII") at 1387:18–1388:8; Trial Tr. VIII at 1409:16–1414–20. Novartis repeatedly argues that the 2007 draft applications are "too far removed in time to reasonably corroborate conception in March, 2005." *See, e.g.*, Dkt. No. 602 at 7. But the only authority Novartis cites for this idea is *Juicy Whip, Inc. v. Orange Bang, Inc.*, 292 F.3d 728, 743 (Fed. Cir. 2002). In *Juicy Whip*, the Federal Circuit stated that "[r]eliable evidence of corroboration preferably comes in the form of physical records that were made contemporaneously with the alleged prior invention." 292 F.3d at 743. But the case does not state that corroboration *must* come in the form of contemporaneous records. Nor does it define what "contemporaneous" means. Rather, the evidence proffered to corroborate oral testimony in *Juicy Whip* included sketches that were drawn at the witnesses' depositions after the litigation had begun. *Id.* In rejecting this evidence, the Federal Circuit stated that the sketches were "no more reliable than the oral testimony," and "caution[ed] against the reliance on oral testimony alone." *Id.* Although the draft patent applications in this case are from 2007, there is no suggestion that they were somehow created for this litigation. The jury was free to consider them as possible evidence of conception.

Having considered the evidence in total and in context, the Court finds that Plexxikon corroborated the testimony offered at trial that it had conceived of the claimed invention as of March 10, 2005.

**d. Preference for Claimed Compounds**

Novartis argues that a reasonable jury could not have concluded that the evidence of conception expressed a preference or particular interest in the claimed compounds. *See* Dkt. No. 582 at 9–11. Where evidence of conception discloses compounds broader than the invention, the evidence must "fairly suggest to one of ordinary skill the subject matter of the [claim], without the need for extensive experimentation to ascertain whether the matter encompassed by the disclosure suggests that desirable features of compositions belonging to the [claim]." *In re Jolley*, 308 F.3d 1317, 1323 (Fed. Cir. 2002); *see also Prutton v. Fuller*, 230 F.2d 459, 463 (C.C.P.A. 1956) (considering "the indication or lack of indication of a preference for the [claimed] composition" among broader disclosure). This is a "fact-intensive inquiry." *Jolley*, 308 F.3d at 1323.

Novartis argues that the evidence at trial demonstrated that Plexxikon actually held a preference for compounds outside the scope of the claims. *See* Dkt. No. 582 at 9–11. For example, Novartis points out that in the patent itself, 117 of the 120 examples fall outside the scope of the claims. *See id.* at 10. During his testimony, Dr. Baran highlighted that almost half of the examples in the patent contain a bicyclic Ar group, which is outside the scope of the claims. *See* Trial Tr. V at 832:8–8:34:22. Plexxikon also synthesized many compounds with bicyclic structures for the Ar group. *See, e.g.*, Trial Tr. III at 462:12–15; Trial Tr. VIII at 1495:6–9, 1455:7–25. Dr. Baran thus concluded that "there is an inherent preference for compounds with a bicycle, not a monocycle." *See* Trial Tr. V at 834:21–22. Novartis also points out that Plexxikon never synthesized a compound where $L_1$ was a bond. *See, e.g.*, Trial Tr. VII at 1356:17–1357:1.

Novartis presented this evidence at trial and made these same arguments before the jury. Novartis now asks the Court to reweigh the evidence and find in its favor. And again, the Court declines the invitation to do so. As already explained, the 2005 email listed exemplary compounds which fell within the scope of the claims; the email proposes using a pyridine at "X," which results in a molecule that falls within the scope of the claims; and the first compound Plexxikon synthesized three days later also fell within the scope of the claims. Dr. Metzker also explained why the 2005 email's reference to using a pyridine "similar to gleevec," *see* Trial Exhibit 48, indicated a preference that $L_1$ be a bond. *See* Trial Tr. VII at 1373:12-1374:5; Trial Tr. VIII at 1469:10–22. In Gleevec, the pyridine connects to the rest of the molecule with a direct bond. *See id.* The 2005 email also stated that the ketone linker in prior molecules did "not need to stay," indicating that the heteroaryl could be connected via a direct bond. *See id.* at 1374:6–20. Novartis' disagreement with this evidence is not sufficient basis to grant judgment as a matter of law.

**e. Equivalency**

Novartis next argues that more than ordinary skill would be required to determine the full scope of the claims or the equivalence of alternative elements. *See* Dkt. No. 582 at 11–12. Specifically, Novartis argues that the "the options claimed for the variables in the asserted claims are not equivalent to each other or to the specific moieties disclosed in the 2005 Email." *Id.* at 11.

Again, Novartis argues that the options for the different variables are simply too vast, and no one of ordinary skill could determine how these optional moieties would function. *Id.* Novartis points out, for example, that even the three example compounds in the patent that fall within the scope of the claims have different activities or efficacy as kinase inhibitors. *Id.* Dr. Tara Rheault also testified about the process of developing Tafinlar, and the difficulties in trying to simply swap one moiety out for another in a molecule. *See* Dkt. No. 571 ("Trial Tr. VI") at 1111:21–1117:15. She explained that changing one of the structures could lead to "very different properties in terms of BRAF potency, selectivity, and how [the compound] behave[s] inside your body." *See id.*

Here, Plexxikon argues that the claimed genus inhibits kinases. *See* Dkt. No. 598 at 14–15. There was evidence presented at trial that the claimed compounds contain a fixed structure that is responsible for inhibiting kinase. *See, e.g.*, Trial Tr. VIII at 1414:17–1418:16; 1484:22–1485:10. And as already explained, the jury heard evidence about what the inventors envisaged could be different variables on this fixed structure that would not affect the compound's ability to inhibit kinases. *See, e.g.*, Trial Tr. III at 327:14–328:17, 434:15–435:5, 456:12–15, 467:1-14, 505:11–506:25, 507:6–508:6, 509:4–22, 510:14–511:1; Trial Tr. IV at 530:4–18, 622:20-25; Trial Tr. VIII at 1483:24–1486:24. Although perhaps not overwhelming, the Court finds that there was sufficient evidence as to this issue.

**f. Reduction to Practice**

Lastly, Novartis argues that Plexxikon did not sufficiently reduce the claimed genus to practice so as to warrant a March 2005 priority date. *See* Dkt. No. 582 at 13–14. Because Plexxikon only synthesized three species, Novartis urges that Plexxikon cannot claim to have invented the broader genus. *Id.* For example, Novartis notes that none of these three compounds had $L_1$ as a bond; all three had a chloro for $R^2$; and none had a substituted lower alkyl for $R^3$. *Id.* at 13. Therefore, Novartis urges, these cannot be "representative of the vast genuses that are claimed." *Id.* Novartis urges that the jury was not instructed on the proper law, and the evidence was insufficient that Plexxikon reduced the claimed inventions to practice. *Id.*

The Court freely acknowledges that more guidance would be welcome in this area of the law, but declines to reconsider its analysis as described in its summary judgment order, *see* Dkt.

No. 450, and synthesized in the jury instructions regarding reduction to practice. As the Court instructed the jury, "[r]eduction to practice of a species within a genus suffices to show prior reduction to practice of the genus." *See* Dkt. No. 560 at 26–27; *see also Unifrax*, 921 F.3d at 1078. Not even Novartis suggests that Plexxikon must have reduced to practice *all* species in the genus. *See* Dkt. No. 582 at 13. Rather, Novartis cites the Federal Circuit's unpublished memorandum disposition, *Amgen Inc. v. Sanofi, Aventisub LLC*, for the idea that "[i]nvention of a genus means to conceive and reduce to practice *a reasonable number and distribution of species* constituting the genus." 850 F. App'x 794, 796 (Fed. Cir. 2021) (emphasis added). On the record before it, the Court sees no reason to disturb the jury's findings in this case.

* * *

The Court accordingly finds that Novartis' arguments regarding anticipation and obviousness fail.

**ii. Written Description**

Novartis next argues that the asserted claims lack written description. *See* Dkt. No. 582 at 14–20. Section § 112(a) provides that "[t]he specification shall contain a written description of the invention." 35 U.S.C. § 112(a). The essential question in assessing the adequacy of a patent's written description is whether the description of the claimed invention would "clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed." *See Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1355–56 (Fed. Cir. 2010) (*en banc*). Such a disclosure has been analogized to "marking trails by making blaze marks on trees to find one's way through the woods of a specification such that a skilled artisan would be able to follow that trail and understand what the inventors had invented." *See Quake v. Lo*, 928 F.3d 1365, 1374 (Fed. Cir. 2019) (cleaned up); *see also Fujikawa v. Wattanasin*, 93 F.3d 1559, 1571 (Fed. Cir. 1996) ("In the absence of such blazemarks, simply describing a large genus of compounds is not sufficient to satisfy the written description requirement as to particular species or sub-genuses.").

A genus can also be disclosed by "either a representative number of species falling within the scope of the genus or structural features common to members of the genus so that one of skill in the art can visualize or recognize members of the genus." *Ariad*, 598 F.3d at 1351. Novartis

argues that neither the specification nor the number of disclosed species are sufficient here.

**a. Blazemarks**

Novartis argues that the specification does not contain "blazemarks" to direct a person of ordinary skill in the art to the compounds of the asserted claims. *See* Dkt. No. 582 at 15–19. Rather, the patents disclose "a series of broad generic formulas of alleged embodiments of the invention" with multiple variables and a long list of options for each of those variables. *See* Dkt. No. 582 at 15; *see also* Trial Exhibit 1 at 4:1–5:31 (Formula Ia). Novartis notes that the disclosed generic formulas are all broader than the broadest asserted claim, but there is nothing in the specification to direct a person of ordinary skill in the art "to the specific combination of all the different variables of the asserted claims." *Id.* In Formula Ia, for example, the specification lists numerous options for $L_1$. *See* Trial Exhibit 1 at 4:14–45. But in Claim 1, $L_1$ is either a bond or an amide. *See id* at 150:38. Although an amide is listed as one of the options in the specification for Formula Ia, Novartis urges that there is nothing directing a person of ordinary skill in the art to select this option among the many available. *See* Dkt. No. 582 at 16, 18.

Plexxikon responds that there is evidence in the record that "the claimed options were a logical subset of those disclosed in the specification." *See* Dkt. No. 598 at 18. Dr. Metzker walked through the specification with the jury at length during the trial. *See* Trial Tr. VII at 1363:6–1368:20. He mapped the specification to the claims, and also testified why a person of ordinary skill in the art would consider the specific options for the variables in the asserted claims to be reasonable and logical choices, even from the specification and broader formulas disclosed there. *See id.* Dr. Metzker explained, for example, that in the claims the $R^1$ variable can be either an optionally substituted lower alkyl or optionally substituted heteroaryl. *See id.* at 1363:19–1364:4. He noted that both options appear in the specification. *Id.* But he further explained that using an optionally substituted lower alkyl is a logical choice among the options for a person of ordinary skill in the art because "those are smaller carbon groups, so those would be the simpler ones to try." *See id.* at 1364:5–9. Dr. Metzker further explained that because this is part of the "hinge binding region" that interacts with the kinase, "having a heteroaryl . . . could help with that bonding property . . . ." *See id.* at 10–16.

The Court acknowledges that the evidence at trial regarding these "blazemarks" was not overwhelming. However, the jury was properly instructed on this issue and it is inherently a question of fact. The Court will not substitute its own judgment for that of the factfinder. Given Dr. Metzker's testimony, as described above, a reasonable jury could have concluded there were sufficient blazemarks in the specification to satisfy the written description requirement.

**b. Representative Species or Structural Features**

Novartis also argues that the patents do not disclose sufficient representative species or structural features common to the genus to meet the written description requirement. *See* Dkt. No. 582 at 19. A patent contains an adequate written description if it discloses either "a representative number of species falling within the scope of the genus or structural features common to the members of the genus so that one of skill in the art can 'visualize or recognize' the members of the genus." *Amgen Inc. v. Sanofi*, 872 F.3d 1367, 1373 (Fed. Cir. 2017) (quotation omitted).

Plexxikon responds that the patents-in-suit disclose the necessary structural features common to the genus to satisfy this requirement. *See* Dkt. No. 598 at 22–23. Every claimed molecule has a phenyl ring attached to (1) a sulfonamide; (2) a fluorine; and (3) a monocyclic heteroaryl, all arranged consecutively in a "1, 2, 3" arrangement. *See* Dkt. No. 558 ("Trial Tr. II") at 325:22–327:7, 328:19–329:11. Dr. Baran similarly recognized these features in the claims and in Formula Ia in the specification. *See* Trial Tr. V at 916:25–917:10, 926:19–927:12. He further acknowledged that because of these common structures, he could "tell from looking at Claim 1 whether a molecule does or doesn't fall within it." *See id.* at 917:14–18, 927:14–17. Evidence introduced at trial also indicated that these structures were important to good binding and thus activity as a kinase inhibitor. *See, e.g.*, Trial Tr. VIII at 1421:7–1422:4. Novartis no doubt disputes Plexxikon's argument that the common structural features allow someone of skill in the art to "visualize or recognize" the members of the genus, *Amgen*, 872 F.3d at 1373 (quotation omitted), but the Court finds no basis to overturn the jury's findings on this ground.

* * *

The Court thus finds that Novartis' arguments regarding written description fail.

//

**iii. Enablement**

Novartis next argues that the asserted claims are invalid for lack of enablement. *See* Dkt. No. 582 at 21–25. Enablement requires a patent specification to describe how to "make" and "use" the invention without undue experimentation. *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988); 35 U.S.C. § 112. "If a patent claim fails to meet the utility requirement because it is not useful or operative, then it also fails to meet the how-to-use aspect of the enablement requirement." *In re '318 Patent Infringement Litig.*, 583 F.3d at 1324. Novartis contends that the specification does not enable a person of ordinary skill in the art to either make or use the full scope of the claimed invention.

As with many of its arguments, however, Novartis simply raises factual disputes that were presented at trial and decided by the jury. Novartis asserts that Dr. Baran explained why the Suzuki reaction could not be used to make the claimed compounds where $L_1$ is a bond without undue experimentation and that this should be decisive. *See* Trial Tr. V at 864:18–881:22. Dr. Rheault also explained why she believed the Suzuki reaction would not have worked to synthesize Tafinlar. *See* Trial Tr. VI at 1107:18–1108:19. But the jury did not have to credit this testimony. As already explained, the Suzuki reaction was well-known in the field in 2005. And neither Dr. Baran nor Dr. Rheault actually attempted to synthesize a compound using the Suzuki reaction in this case. *See* Trial Tr. V at 876:6–8; 949:12–950:4; Trial Tr. VI at 1108:15–19. In contrast, Plexxikon commissioned Dr. Alex Bridges to synthesize Tafinlar using the Suzuki reaction, and he did so. *See* Trial Tr. V at 950:24–952:8.

Similarly, Novartis contends that many of the compounds that fall within the claimed genus would be inoperative and not have any kinase inhibition activity. *See* Dkt. No. 582 at 22–25. But whether the specification enables a person of ordinary skill in the art to use the full scope of the claimed invention simply asks whether "the number of inoperative [embodiments]" is so "significant" that it "in effect forces one of ordinary skill in the art to experiment unduly in order to practice the claimed invention." *Atlas Powder Co. v. E.I. Du Pont de Nemours & Co.*, 750 F.2d 1569, 1576–77 (Fed. Cir. 1984). Here again, the jury heard differing opinions from the parties' witnesses. Plexxikon's experts testified that the "scaffold" discussed above is the part of the

structure responsible for the kinase inhibition activity. *See, e.g.*, Trial Tr. III at 327:4-328:11, 426:13–427:14, 431:4–14, 467:1–14, 492:7–17, 492:23–493:14, 504:2–505:1; Trial Tr. VIII at 1414:17–1418:25. They concluded that all reasonably synthesizable molecules containing this structure would have some activity against kinases. *See, e.g.*, Trial Tr. III at 353:12-16; 357:6-19; Trial Tr. VIII at 1418:17–25. The Court will not override the jury's credibility determinations and weighing of the evidence here either.

**iv. Willfulness**

Novartis challenges the jury's finding that it willfully infringed the asserted patents. *See* Dkt. No. 582 at 25–32. At the outset, the parties dispute whether pre-suit knowledge is required for a finding of willfulness. *Compare* Dkt. No. 582 at 25–29, *with* Dkt. No. 598 at 29–30. Novartis points out that recently the Federal Circuit stated that "[k]nowledge of the asserted patent and evidence of infringement is necessary, but not sufficient, for a finding of willfulness." *See Bayer Healthcare LLC v. Baxalta Inc.*, 989 F.3d 964, 988 (Fed. Cir. 2021). Plexxikon, for its part, states that "the concept of 'willfulness' requires a jury to find no more than deliberate or intentional infringement." *SRI Int'l, Inc. v. Cisco Sys., Inc.*, 14 F.4th 1323, 1330 (Fed. Cir. 2021) ("*SRI III*") (quotation omitted). Plexxikon fails to explain, however, why pre-suit knowledge is not embedded within the concept of "deliberate or intentional infringement."

The Court finds that the evidence presented at trial of Novartis' pre-suit knowledge was insufficient to support the jury's findings. *See* Dkt. No. 598 at 30–31. Plexxikon asked the jury—and now asks the Court—to credit a number of unsupported and unreasonable suppositions.

- Plexxikon points to testimony from Plexxikon's former CEO that "it's pretty customary to do patent searches on a regular basis, and we certainly did that." *See* Trial Tr. II at 269:22–270:2. But this testimony provides no insight into Novartis' own practices about searching for patents. Nor can it support an inference that Novartis actually conducted such searches, found Plexxikon's patent applications, and learned that the '640 Patent issued before this case was filed.
- Plexxikon also relies on testimony from Dr. Liu, who testified that he and his colleagues who worked on the BRAF program at the Genomics Institute of the

Novartis Research Foundation had a practice of searching for publications and Patent Office records for recent developments relating to BRAF kinase inhibitors. *See* Trial Tr. IV at 609:15–18, 611:11–613:10, 618:8–11, 621:23–622:8. Again, Plexxikon posits a false equivalency between this practice and any relevant practice of the Defendant in this case. They do not point to any evidence in the record that these entities are the same, or that the foundation's knowledge could somehow be attributed to Defendant Novartis.

- Dr. Liu actually stopped working on BRAF in 2010. *See id.* at 626:17–627:4. And he testified that he did not continue to monitor BRAF patents or development after that time. *See id.* Moreover, Dr. Liu did not testify that his practice of searching for BRAF kinase inhibitor developments actually revealed Plexxikon's patent application. To the contrary, Dr. Liu testified that he had no personal knowledge of the application. *See id.* at 627:9–628:25.
- Mr. Waibel testified that due diligence was conducted in 2015 when Novartis AG (Defendant Novartis' parent company, and not a party to this case) acquired Tafinlar from GSK. *See* Trial Tr. IV at 607:11–16 (Waibel Clip Report at 42:21–43:7). Plexxikon suggests that Novartis, the party named in this action, therefore would have identified Plexxikon's patent applications. But again, this is pure conjecture.

As for the jury's finding that Novartis deliberately disregarded Plexxikon's patent rights, Plexxikon acknowledges that Novartis commissioned a legal opinion from Christina Schwarz, an attorney from Venable LLP, shortly after this case was filed. *See* Dkt. 585-12, Ex. 11 ("Waibel Depo.") at 21:21–23:4; Dkt. No. 585-15, Ex. 14 ("Schwarz Depo.") at 11:13–24; *see also* Trial Exhibit 23. As the Federal Circuit has explained, "[f]avorable opinions of counsel normally present a well-grounded defense to willfulness, but the protection they afford is not absolute." *Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 810 (Fed. Cir. 2007). Plexxikon offers scattered deposition excerpts offered at trial to suggest that Ms. Schwarz was biased when she prepared the opinion and Novartis was unreasonable in relying on it. Again, the Court finds that Plexxikon is

asking the Court to infer too much from this evidence.

For example, Plexxikon proffered testimony that Ms. Schwarz does significant work for Novartis, and that her letter did not address all infringement or invalidity issues. *See* Trial Tr. IV at 607:18–24 (Schwarz Clip Report at 9:6–9, 10:16–11:3, 76:2–7, 76:9–14, 76:16–17). Ms. Schwarz's opinions regarding invalidity turned on the three GSK compounds and the priority date of the patents-in-suit. *See* Trial Exhibit 23. And as part of this analysis, she stated that she was "unaware" of any evidence entitling Plexxikon to an earlier priority date. *See id.* at 3. Plexxikon points out that Novartis did not provide her with any such information, even though it had as part of this litigation, further undercutting the legitimacy of her opinion. *See* Dkt. No. 585 at 5, 11.

That Ms. Schwarz has worked previously with Novartis is neither surprising nor indicative of bias. If consideration of a client's interests were enough to support a finding of willfulness, opinions of counsel letters would be meaningless. Parties seek opinions of counsel to protect their interests. And to the extent Plexxikon suggests that Ms. Schwarz's opinions as to invalidity were incomplete or wrong, the Court does not find this persuasive evidence of misconduct. From the outset this has been a complex case. Although Plexxikon prevailed at trial, the Court was asked to decide several difficult questions of law, and the Court believes this was a closer case than the jury award may suggest.

Plexxikon also presented testimony from Mr. Peter Waibel, Novartis' head of U.S. Patent Litigation, regarding Novartis' reliance on Ms. Schwarz's letter. *See* Trial Tr. at VII at 1353 (Waibel Clip Report at 21:16–20, 22:24–23:4, 23:10–14, 24:5–9). He explained that he relied on the opinion letter to conclude that Novartis had a legitimate invalidity defense in this case. *See id.* (Waibel Clip Report at 23:10–14, 24:12–14, 24:17–25:1). Plexxikon points out that Mr. Waibel said he had not read the letter to prepare for the deposition and could not comment on any of its content. But again, this does not speak to willfulness. The excerpts simply establish that Novartis hired Ms. Schwarz to prepare an opinion letter, and Novartis relied on that letter.

Plexxikon appears to suggest that the jury's verdict could be supported simply by a credibility determination about Ms. Schwarz and Mr. Waibel. The Court finds that this is insufficient to support the jury's finding of willfulness. This is a serious allegation, and should not

turn on whether the jury liked one party more than the other. Instead, willfulness requires an evidentiary showing supporting an inference of "deliberate or intentional infringement," *see Bayer Healthcare*, 989 F.3d at 988, which was lacking here. The Court thus **GRANTS** the motion on this basis.

**v. Damages**

Lastly, Novartis argues that the jury's $177,792,640.01 damages award is illegal and excessive. *See* Dkt. No. 582 at 32–40. During the trial, both parties relied on the September 28, 2008 Collaboration Agreement between Plexxikon and Hoffman-La Roche, Inc. (the "Roche Agreement"). *See* Trial Exhibit 379. Novartis, for its part, suggests that there was a disconnect between the damages amount offered by Plexxikon's damages expert, Dr. Gregory Leonard, and the damages calculations it requested during closing argument. *See* Dkt. No. 582 at 32–43.

Novartis first contends that Plexxikon invited the jury to apply the terms of the Roche Agreement in their entirety, including terms that did not make sense in this context, such as amounts for upfront and milestone payments. Novartis points out that if the Roche Agreement had applied directly to Tafinlar, the upfront and milestone payments would not even have been made by Novartis. *Id.* at 34. They would have been made by GSK, which developed and previously owned Tafinlar. *Id.* The hypothetical negotiation, however, was set several years later, after Tafinlar had already been approved and on the market for several years. *Id.* As a result, Novartis urges that $111 million of the jury award is based on non-infringing conduct.

Plexxikon argues that Novartis waived this argument by failing to object during closing argument. *See* Dkt. No. 598 at 33–34. Again, Novartis suggests that its broad Rule 50(a) motion, which challenged damages, is sufficient. *See* Dkt. No. 602 at 20. But the Court agrees with Plexxikon that in any event, the award did not necessarily include damages for non-infringing conduct. The Roche Agreement was relied on as a comparable license when considering the value of the patented invention overall. It was offered at trial as an example of what a willing licensee would pay to license comparable patents. As Dr. Leonard testified, all the financial terms of the Roche Agreement, including milestone payments, "taken together, [are] the financial payment that Roche was making to Plexxikon" for patent rights. *See* Trial Tr. IV at 662:16-24, 670:19–

671:3. Dr. Leonard therefore calculated the total amount of money that would be owed under the terms of the agreement through 2018. *Id.*

Ms. Kathleen Sereda Glaub further testified that Plexxikon negotiated the Roche Agreement with more milestone payments over a higher royalty rate, in part based on the fact that at the time the milestones "were very important to the company's survival so [Plexxikon] could fund other drug development." Trial Tr. II at 280:2–25. Plexxikon thus "took a balanced view" regarding the payment terms, and was interested in the deal's net present value and terms that would be beneficial based on the company's current needs. *Id.* As she explained, however, "if you look at the financial terms overall, they basically can be analyzed to determine a certain value for what [Plexxikon] w[as] selling." *Id.* at 280:10–15. And Ms. Glaub testified that the total Roche deal was valued at approximately $700 million *plus* royalties. *See* 281:2–16. That the jury may have considered the milestones when determining the value of the patents at issue in this case therefore does not necessarily mean that the jury was relying on any improper non-infringing conduct.

Novartis also contends that the award is excessive because it is based on a higher royalty rate than even Plexxikon's own damages expert testified to. *See* Dkt. No. 582 at 35–39. Novartis argues that even adopting Dr. Leonard's calculations for loss of Zelboraf sales, Plexxikon's actual injury did not exceed $42 million. *See id.* The jury award, Novartis argues, includes damages for harm Plexxikon did not suffer and constitutes a windfall. *Id.* Plexxikon again suggests that Novartis has waived this argument. *See* Dkt. No. 598 at 37.

Substantively, Plexxikon argues that Plexxikon was not limited to recovering just the lost income on Zelboraf sales caused by the Tafinlar sales. *See id.* at 38. Plexxikon is entitled to recover lost licensing revenue, which as explained above, would need to account the value of the patents in a hypothetical negotiation. Novartis again obviously disagrees with the jury's interpretation of the evidence, and its choice to discount the testimony proffered by Novartis' damages expert. But that does not make the award illegal or a windfall.

* * *

The Court finds that substantial evidence supports the jury's verdict, with the exception of

the finding of willful infringement, as discussed in Section I.B.iv above. Accordingly, the Court **GRANTS IN PART** and **DENIES IN PART** Novartis' motions for judgment as a matter of law. Novartis moved in the alternative for a new trial on the same bases. For substantially similar reasons, the Court also finds that with the exception of willfulness, the jury's verdict was not contrary to the clear weight of the evidence. Having granted Novartis' motion for judgment as a matter of law as to willfulness, the Court **DENIES** Novartis' motion for a new trial in its entirety.

## II. MOTION FOR ENHANCED DAMAGES

Plexxikon moves for enhanced damages based on the jury's finding that Novartis willfully infringed the '640 and '539 patents. *See* Dkt. No. 585. Plexxikon does not request a specific amount or multiplier, but instead asserts that "some enhancement is warranted to give effect to the jury verdict." *See* Dkt. No. 604 at 8. As discussed in Section I.B.iv above, the Court does not find that there was sufficient evidence in the record to support the jury's finding of willfulness. But even if there had been an adequate showing of willfulness, this case would not warrant enhanced damages.

### A. Legal Standard

Under § 284 of the Patent Act, courts "may increase the damages up to three times the amount found or assessed." 35 U.S.C. § 284. "A finding of willful infringement is a prerequisite to the award of enhanced damages." *i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 858 (Fed. Cir. 2010), *aff'd*, 564 U.S. 91 (2011). However, "an award of enhanced damages does not necessarily flow from a willfulness finding." *See SRI III*, 14 F.4th at 1330 (quotation omitted). Rather, enhanced damages are "designed as a 'punitive' or 'vindictive' sanction for egregious infringement behavior." *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 579 U.S. 93, 103 (2016). "The sort of conduct warranting enhanced damages has been variously described . . . as willful, wanton, malicious, bad-faith, deliberate, consciously wrongful, flagrant, or—indeed—characteristic of a pirate." *Id.* at 103–04. Although district courts have discretion to determine whether enhanced damages are appropriate, the Supreme Court has clarified that "such damages are generally reserved for egregious cases of culpable behavior." *Id.* at 104; *see also SRI III*, 14 F.4th at 1330 ("Discretion remains with the district court to determine whether the conduct is sufficiently

egregious to warrant enhanced damages."). Whether the conduct at issue is sufficiently egregious is established by a preponderance of the evidence. *See Halo*, 579 U.S. at 107.

To guide the inquiry, courts may consider the following factors: (1) whether the infringer deliberately copied the ideas or design of another; (2) whether the infringer, when he knew of the other's patent protection, investigated the scope of the patent and formed a good-faith belief that it was invalid or that it was not infringed; (3) the infringer's behavior as a party to the litigation; (4) defendant's size and financial condition; (5) closeness of the case; (6) duration of defendant's misconduct; (7) remedial action by the defendant; (8) defendant's motivation to harm; and (9) whether defendant attempted to conceal its misconduct. *See Read Corp. v. Portec, Inc.*, 970 F.2d 816, 827 (Fed. Cir. 1992); *see also SRI III*, 14 F.4th at 1330 (in assessing enhanced damages "the district court appropriately considered the factors laid out in *Read*").

**B. Discussion**

Plexxikon urges that Novartis' conduct was sufficiently egregious to warrant enhanced damages in this case. *See generally* Dkt. No. 585. Because Novartis conceded that it infringes the patents-in-suit by selling Tafinlar in the United States, *see* Dkt. No. 501, this case turned on Novartis' various arguments that the patents were invalid. As discussed above, the jury rejected these arguments. Plexxikon urges that Novartis' reliance on these invalidity arguments throughout the litigation was egregious—and damages should be awarded—because (1) it was premised on an unreliable legal opinion of counsel; and (2) the Patent Trial and Appeal Board ("PTAB") had previously considered Novartis' invalidity arguments in the context of its petitions for *inter partes review* ("IPR") and for post-grant review ("PGR"), but declined to institute the petitions. Plexxikon argues that the PTAB thus "rejected" these arguments. *See* Dkt. No. 585 at 6.

In defense of Plexxikon's claim of willful infringement, Novartis asserted that it relied on advice of counsel and had a good faith belief regarding invalidity. Novartis commissioned a legal opinion from Ms. Schwarz shortly after this case was filed. *See* Waibel Depo. at 21:21–23:4; Schwarz Depo. at 11:13–24; *see also* Trial Exhibit 23. Ms. Schwarz concluded that the patents-in-suit were not entitled to a 2007 priority date because the specification of Plexxikon's early patent applications failed to satisfy the written description requirement. *See* Trial Exhibit 23. As such,

Ms. Schwarz opined that the asserted claims were anticipated by GSK's Tafinlar patent and associated applications, and invalid under 35 U.S.C. §§ 102 and 103. *Id.* Ms. Schwarz later supplemented this opinion of counsel in light of the PTAB's IPR and PGR decisions. *See* Dkt. No. 559-2, Ex. 1. She explained that the PTAB decisions did not change her prior opinion. *Id.*

Plexxikon calls these legal opinions a "sham" and a "pretext," and suggests that Novartis commissioned them solely to insulate itself in this lawsuit. *See* Dkt. No. 585 at 10–14 Plexxikon urges that no reasonable company would have relied on these opinions, and the Court should consider Novartis' reliance as a reason to impose enhanced damages.

*First*, Plexxikon argues that Ms. Schwarz was biased because she had done prior work for Novartis, and her opinions stated what Novartis wanted to hear. *See id.* at 4–5, 11. But Plexxikon has not cited—and the Court is not aware of—any case requiring that counsel be "new" in order to render sound legal advice. As Novartis points out, the fact that Ms. Schwarz had worked with Novartis before could equally signal her competency and Novartis' trust in her opinions. *See* Dkt. No. 599 at 5. Moreover, Plexxikon's argument that Ms. Schwarz was biased could be raised against anyone offering an opinion of counsel. Such opinions are solicited to protect the company and its interests. *Cf. Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1191 (Fed. Cir. 1998) ("The reason a potential defendant obtains an opinion from counsel is to ensure that it acts with due diligence in avoiding activities which infringe the patent rights of others. Obtaining an objective opinion letter from counsel also provides the basis for a defense against willful infringement."). Far from being egregious, Novartis' reliance on opinions from counsel that it had hired before was routine in the Court's view.

*Second*, Plexxikon suggests that Ms. Schwarz lacked sufficient information to render a proper opinion. *See* Dkt. No. 585 at 5. "[C]ounsel's opinion must be premised upon the best information known to the defendant." *Comark*, 156 F.3d at 1191. "Whenever material information is intentionally withheld, or the best information is intentionally not made available to counsel during the preparation of the opinion, the opinion can no longer serve its prophylactic purpose of negating a finding of willful infringement." *Id.* Here, Plexxikon explains that Ms. Schwarz noted in her first opinion letter that her invalidity guidance was premised, at least in part,

on the idea that Plexxikon was not entitled to an earlier priority date. She explained that Plexxikon "would have to provide evidence showing it conceived of the claimed subject matter before GSK and diligently reduced that subject matter to practice." *See* Trial Exhibit 23 at 3. Ms. Schwarz stated that she was "unaware of any such evidence." *Id.* Plexxikon argues that at the time Ms. Schwarz prepared her opinion, however, Plexxikon had produced discovery in this case that undermined that opinion. *See* Dkt. No. 585 at 5, 11. Plexxikon thus urges that Novartis was aware of this evidence and intentionally withheld it from Ms. Schwarz. *Id.*

Novartis explains that only outside counsel had this information because the relevant documents were designated as "Highly Confidential – Attorneys' Eyes Only" under the protective order in this case. *See* Dkt. No. 599 at 6–7. The documents that Plexxikon points to were not made public until years after Ms. Schwarz provided her opinions. *Id.* Novartis, as an entity, therefore did not have access to this information. And even if it did, it could not have shared this information with Ms. Schwarz. In response, Plexxikon suggests that Ms. Schwarz could have entered an appearance in this case, which would have granted her access to the documents. *See* Dkt. No. 604 at 3–5. Yet Plexxikon elsewhere argues that Ms. Schwarz's potential involvement in this litigation indicates that her opinions were biased and of little value. *See, e.g.*, Dkt. No. 585 at 4, 11. Plexxikon thus posits a Catch-22: Ms. Schwarz did not have the necessary information to render a reasoned opinion, but if Novartis had given her this information, her opinion would be biased. The Court is not persuaded that Ms. Schwarz provided incompetent or biased opinion letters, and in any event the inferences Plexxikon seeks to draw do not come near the egregiousness threshold that applies here.

Plexxikon further argues that Novartis' continued reliance in this litigation on the same invalidity arguments it raised before the examiner and PTAB is the kind of egregious conduct that warrants enhanced damages. *See* Dkt. No. 585 at 12–13. Plexxikon notes that the examiner rejected Novartis' invalidity arguments, and suggests that the PTAB did as well when it denied Novartis' IPR and PGR petitions. *Id.* Plexxikon cites several cases in which enhanced damages were awarded where a defendant continued to rely on invalidity arguments that were rejected by the PTAB on reexamination. *Id.* But this Court has already explained that the PTAB decisions

declining to institute review have little precedential value. *See* Dkt. No. 451 at 2. A non-institution decision is not a "decision on the merits, any more so than a grant of an IPR is a decision on the merits." *Interdigital Comm's Inc. v. Nokia Corp.*, No. CV 13-10-RGA, 2014 WL 8104167, at *1 (D. Del. Sept. 19, 2014); *cf. See Chamberlain Group, Inc. v. Techtronic Industries*, 935 F.3d 1341, 1351–52 (Fed. Cir. 2019) ("[D]enials of institution provide limited probative value that is likely to be outweighed by the prejudice to the opposing party, and limiting instructions to the jury do not necessarily cure the prejudice."). Novartis was not legally estopped from raising the same arguments in this case and before the jury. *See HP Inc. v. MPHJ Tech. Inv., LLC*, 817 F.3d 1339, 1347 (Fed. Cir. 2016). Yet if the Court were to accept Plexxikon's argument, Novartis could be subjected to enhanced damages for raising arguments it was legally permitted to make. The Court does not find Novartis' legal strategy egregious.

This was a complex case that both parties litigated extremely vigorously. Although Novartis did not prevail at trial, the Court does not believe that there is sufficient evidence to support a finding that Novartis engaged in egregious conduct. The Court agrees with Novartis that this was—and remains—a hard-fought and close case. Having considered the totality of the circumstances, the Court exercises its discretion and **DENIES** Plexxikon's motion for enhanced damages.

## III. MOTION FOR ONGOING ROYALTIES AND INTEREST

Lastly, Plexxikon requests that the Court impose an ongoing royalty of 9% assessed quarterly on post-verdict sales of Tafinlar, and award prejudgment and post-judgment interest. *See* Dkt. No. 586.

### A. Discussion

#### i. Ongoing Royalty Rate

"A damages award for pre-verdict sales of the infringing product does not fully compensate the patentee because it fails to account for post-verdict sales." *Fresenius USA, Inc. v. Baxter Intern., Inc.*, 582 F.3d 1288, 1303 (Fed. Cir. 2009). Thus, "[t]he award of an ongoing royalty instead of a permanent injunction to compensate for future infringement is appropriate in some cases." *Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs., Inc.*, 670 F.3d 1171, 1192

(Fed. Cir. 2012), *opinion vacated in part on other grounds on reh'g en banc*, 476 F. App'x 747 (Fed. Cir. 2012). An ongoing royalty permits an adjudged infringer to continue using a patented invention for a price, and thus "prevent[s] the violation of any right secured by patent." 35 U.S.C. § 283; *Paice LLC v. Toyota Motor Corp.*, 504 F.3d 1293, 1313, & n.13 (Fed. Cir. 2007) (explaining need for ongoing royalty). The Federal Circuit has stated that district courts have discretion under 35 U.S.C. § 283 to award ongoing royalties. *See id.* at 1314.

Here, the verdict form only asked the jury to determine damages "for Novartis's infringement *to date*." *See* Dkt. No. 565 at 8 (emphasis added). Plexxikon therefore requests an ongoing royalty at a rate of 9%. *See* Dkt. No. 586. Plexxikon notes that this is significantly less than the 18.75% effective rate implied by the jury's damages award. *See id.* at 1. Novartis does not dispute that an ongoing royalty rate is appropriate. *See* Dkt. No. 600 at 10–11. However, Novartis urges that the rate should be 2%—not the 9% that Plexxikon requests. *See id.*; *see also* Dkt. No. 586 at 5, & n.2 (explaining that it would be futile for the parties to negotiate the appropriate royalty themselves because they were so far apart at trial). "Should the parties fail to come to an agreement, the district court could step in to assess a reasonable royalty in light of the ongoing infringement." *Paice*, 504 F.3d at 1315. The Court therefore considers what would be an appropriate ongoing royalty rate under the circumstances. The Federal Circuit has indicated that "[o]ngoing royalties may be based on a post-judgment hypothetical negotiation using the *Georgia–Pacific* factors." *Arctic Cat Inc. v. Bombardier Recreational Prod. Inc.*, 876 F.3d 1350, 1370 (Fed. Cir. 2017).

"Generally, the jury's damages award is a starting point for evaluating ongoing royalties." *Apple, Inc. v. Samsung Elecs. Co.*, No. 12-CV-00630-LHK, 2014 WL 6687122, at *14 (N.D. Cal. Nov. 25, 2014) (citing *Bard*, 670 F.3d at 1193). During trial, the parties agreed that the Roche Agreement provided a useful baseline for purposes of determining damages in this case. *See* Dkt. No. 572 ("Trial Tr. VII") at 1245:7–12 (Novartis' damages expert, James Malackowski, agreeing with Plexxikon's expert that "in the absence of any licenses to these two [asserted] patents, the next best thing to start with is that collaboration agreement"). The jury also appeared to agree that the Roche Agreement was a comparable agreement, awarding damages that tracked the economic

terms of that agreement. *See* Dkt. No. 574 ("Trial Tr. IX") at 1626:3–1627:17; Dkt. No. 565 at 8.

In their post-trial briefs on this issue, the parties continue to use the Roche Agreement as a starting point for calculating the ongoing royalty rate. *Compare* Dkt. No. 586 at 7–8, *with* Dkt. No. 600 at 3–5. The Roche Agreement provided for an initial 7% royalty rate on annual net sales of Zelboraf up to $400 million. *See* Trial Exhibit 379 at 32. The royalty rate increased incrementally as annual net sales increased, up to 16% for sales over $1.2 billion. *Id.* The Court considers whether circumstances following the jury trial justify ratcheting this rate either up or down.

Plexxikon argues that an ongoing royalty rate higher than the 7% in the Roche Agreement is warranted because of the strength of its bargaining position after trial (*Georgia-Pacific* factor 5). The Federal Circuit has acknowledged that "there is a fundamental difference between a reasonable royalty for pre-verdict infringement and damages for post-verdict infringement." *See XY, LLC v. Trans Ova Genetics*, 890 F.3d 1282, 1297 (Fed. Cir. 2018) (quotations omitted). "Prior to judgment, liability for infringement, as well as the validity of the patent, is uncertain, and damages are determined in the context of that uncertainty." *See Amado v. Microsoft Corp.*, 517 F.3d 1353, 1362 (Fed. Cir. 2008). "When patent claims are held to be not invalid and infringed, this amounts to a substantial shift in the bargaining position of the parties." *XY*, 890 F.3d at 1297 (quotation omitted). Courts should therefore account for this change in bargaining power when setting an ongoing royalty rate. *Id.* As one district court cautioned, "[f]ail[ure] to consider the parties' changed legal status would create an incentive for every defendant to fight each patent infringement case to the bitter end because without consideration of the changed legal status, there is essentially no downside to losing." *See Telcordia Techs., Inc. v. Cisco Sys., Inc.*, No. CV 04-876-GMS, 2014 WL 1457797, at *4 (D. Del. Apr. 14, 2014) (quotation omitted).

Novartis' proposed 2% ongoing royalty rate simply fails to account for this change in circumstance. Novartis acknowledges as much, urging that it does not believe Plexxikon's bargaining position has improved post-verdict. *See* Dkt. No. 600 at 7–8. In support of this argument, Novartis argues that the jury was already asked to assume that during the October 2016 hypothetical negotiation the parties believed the patents were valid and infringed. *See id.* at 8

(citing Dkt. No. 560 at 33). But the Federal Circuit has not drawn this distinction. And the two district court cases that Novartis relies on do not appear to grapple with the Federal Circuit case law discussed above, which holds that "[w]hen patent claims are held to be not invalid and infringed, this amounts to a substantial shift in the bargaining position of the parties." *See XY*, 890 F.3d at 1297 (quotation omitted).

The Court simply does not find it credible that Plexxikon's bargaining position would be worse after receiving a nearly $178 million jury verdict in its favor. Novartis no doubt disagrees with the jury's findings and award, but the jury plainly found that it infringed valid patents.

Moreover, the data before the Court indicates that Novartis' sales from Tafinlar have been increasing over time. Since the date of the first hypothetical negotiation that the jury considered (October 2016), the extent of infringing use (*Georgia-Pacific* factor 11) and Tafinlar's commercial success (*Georgia-Pacific* factor 8) have thus also continued to increase. *See, e.g.*, Trial Exhibit 478, "Tafinlar – Total." For example, from 2018 to 2020, Tafinlar's third-party net sales have increased each year. *See id.* ($212 million in 2018 to $250 million in 2020). In March 2021, the last month for which Novartis produced Tafinlar sales data, third-party net sales were the highest for all reported months at $26 million. *See id.*

Against this backdrop, Novartis points out that the pharmaceutical landscape for BRAF inhibitors is evolving. *See* Dkt. No. 600 at 6–7. The Federal Circuit has "instructed district courts to consider changed economic circumstances, such as changes related to the market for the patented products" when setting an ongoing royalty rate. *See XY*, 890 F.3d at 1297. "The requirement to focus on changed circumstances is particularly important when, as in this case, an ongoing royalty effectively serves as a replacement for whatever reasonable royalty a later jury would have calculated in a suit to compensate the patentee for future infringement." *Id.* Specifically, Novartis argues that since its introduction into the market in June 2018, the third-party BRAF inhibitor Braftovi has increased its market share over time. *See id.* Novartis' expert testified at trial that Braftovi has taken away market share from the other available treatment options, including Zelboraf and Tafinlar, since it entered the market in 2018. *See* Trial Tr. IV at 742:12–744:12. And Plexxikon has been considering the development of its own second

generation BRAF inhibitor. *See* Trial Tr. III at 471:20–473:12.

Plexxikon, in turn, responds that its experts—and the jury—already took into account the likelihood that competition in the BRAF inhibitor space may increase over time. Ms. Glaub, for example, testified that when the Roche Agreement was signed, Plexxikon expected other companies to come to market with drugs treating melanoma patients with a BRAF mutation. *See* Trial Tr. II at 276:15–21. She also explained that "competition significantly increased once [Plexxikon's] Phase 1 clinical trial data [] clinically validated the target for melanoma, which had never been done before." *See id.* at 276:18–21. Even Novartis' expert explained that his own proposed royalty rate did not change over time "because the expectation was that there would be new products coming into the market." *See* Trial Tr. VII at 1316:16–21. Plexxikon therefore contends that the Court need not further account for the increase in competition when determining the ongoing royalty rate.

The Court agrees with Plexxikon that the parties already presented evidence at trial on this point and explained how their models accounted for the increase in competition. Novartis has not presented any *new* economic circumstances that the Court should account for when calculating the ongoing royalty rate. To the extent Novartis reiterates arguments raised in its motion for judgment as a matter of law, and asks the Court to set aside the jury's damages award, the Court has already addressed these arguments in Section I above and declines to do so.

Having considered the parties' arguments and the relevant *Georgia-Pacific* factors, the Court determines that a 9% ongoing royalty rate is appropriate in this case. The jury found that as of the date of its verdict, Novartis was infringing Plexxikon's valid patents. The Court agrees that an ongoing royalty is appropriate so Novartis may continue to sell Tafinlar while protecting Plexxikon's patent rights. For the reasons detailed above, the Court **GRANTS** Plexxikon's motion for ongoing royalty at the rate of 9%.

**ii. Prejudgment and Post-Judgment Interest**

Plexxikon also seeks an award of prejudgment and post-judgment interest. *See* Dkt. No. 586 at 10–14. Again, Novartis does not dispute that such interest is appropriate. *See* Dkt. No. 600 at 11–12, 14, & n.9. Novartis explicitly states that it "does not object to post-judgment interest

being awarded under 28 U.S.C. § 1961(a) as requested by Plexxikon." *See id.* at 14, n.9. Novartis also does not contest that any prejudgment interest should be compounded quarterly. *See generally* Dkt. No. 600. Plexxikon's motion is thus **GRANTED** on this basis. However, Novartis urges that any prejudgment interest should be awarded at the Treasury Bill rate rather than the prime rate. *See id.* at 11–12.

Section 284 of the Patent Act provides that in addition to damages, the Court shall award a successful claimant "interest and costs as fixed by the court." 35 U.S.C. § 284. Section 284 does not, however, state what interest rate should apply. "District courts have discretion to determine the rate of prejudgment interest." *See Uniroyal, Inc. v. Rudkin–Wiley Corp.*, 939 F.2d 1540, 1545 (Fed. Cir. 1991). The Federal Circuit has affirmed the use of both the Treasury Bill rate and the prime rate. *See id.* ("A trial court is afforded wide latitude in the selection of interest rates, . . . and may award interest at or above the prime rate."); *see also Opticurrent*, 2019 WL 2389150, at *19 (noting that "[a]s for the choice between the prime rate and the T-bill rate, the law is inconsistent") (collecting cases).

Novartis urges that the prime rate is only appropriate where the plaintiff has provided evidence that it actually borrowed money at that rate. *See* Dkt. No. 600 at 13–14. Because Plexxikon has not provided any such evidence, Novartis contends that the Treasury Bill rate is appropriate. *Id.* Yet the Federal Circuit has rejected this argument: "[I]t is not necessary that a patentee demonstrate that it borrowed at the prime rate in order to be entitled to prejudgment interest at that rate." *See Uniroyal* at 939 F.2d at 1545; *see also Opticurrent*, 2019 WL 2389150, at *19 (citing *Uniroyal*, 939 F.2d at 1545). Courts have also awarded the prime rate by treating the nonpayment of royalties as a compulsory loan. *See, e.g.*, *Open Text S.A. v. Box, Inc.*, No. 13-CV-04910-JD, 2015 WL 4940798, at *11 (N.D. Cal. Aug. 19, 2015). Courts have reasoned that the prime rate is the most accurate estimate of the interest rate that the patentee would have charged the infringer for a loan, since that is "the rate charged by banks to its most credit-worthy customers." *Opticurrent*, 2019 WL 2389150, at *19 (quotation omitted). In this way, the prime rate not only accounts for the time value of money, but also risk. *See Open Text*, 2015 WL 4940798, at *11. It "captures the possibility that [the patentee] would get stiffed by defendants."

*Id.*

The Court must consider what rate would appropriately compensate Plexxikon in this case. Plexxikon highlights the difficulties caused by Novartis' infringement, pointing out, for example, that Plexxikon had to suspend its clinical programs. *See* Trial Tr. III at 438:–440:18. Had Novartis made these payments, Plexxikon suggests that it could have used the royalty payments for further clinical development rather than simply investing the money. *See* Dkt. No. 586 at 11–12. Novartis does not explain how the Treasury Bill rate adequately compensates for this loss. The Court accordingly finds in its discretion that the prime rate fully compensates Plexxikon. *Accord Opticurrent*, 2019 WL 2389150, at *19; *Fujifilm Corp. v. Motorola Mobility LLC*, 182 F. Supp. 3d 1014, 1043 (N.D. Cal. 2016); *Fresenius Med. Care Holdings, Inc. v. Baxter Int'l, Inc.*, No. C 03-1431 SBA, 2008 WL 928535, at *3 (N.D. Cal. Apr. 4, 2008). The Court thus **GRANTS** Plexxikon's motion.

## IV. CONCLUSION

The Court **TERMINATES AS MOOT** Plexxikon's motion for judgment as a matter of law, Dkt. No. 554; **GRANTS IN PART** and **DENIES IN PART** Novartis' motions for judgment as a matter of law, Dkt. Nos. 545, 559, 582; **DENIES** Plexxikon's motion for enhanced damages, Dkt. No. 585; and **GRANTS** Plexxikon's motion for ongoing royalties and interest, Dkt. No. 586, as follows:

1. Novartis is ordered to pay royalties at a rate of 9% on United States Tafinlar sales for the period July 23, 2021, until the expiration of the '640 and '539 on a quarterly basis;
2. Novartis is ordered to provide Plexxikon with quarterly Tafinlar United States sales reports by the end of the second week of each quarter, and to make the corresponding royalty payment for each quarter by that same date;
3. Novartis is ordered to pay prejudgment interest in the amount of $17,220,822; and
4. Novartis is ordered to pay post-judgment interest on all amounts awarded to Plaintiff Plexxikon Inc., starting on Sept. 17, 2021, at a rate equal to the weekly average 1–year constant maturity Treasury yield, as published by the Board of

Governors of the Federal Reserve System, for the calendar week preceding the date of the judgment.

The Court understands that Novartis intends to appeal the Court's orders, and Novartis requests a stay of any payment obligations. Plexxikon does not appear to challenge this request. The Court finds that a stay is appropriate under the circumstances and therefore **STAYS** Novartis' payment obligations pending final resolution of the anticipated appeal.

**IT IS SO ORDERED.**

Dated: 9/29/2022

HAYWOOD S. GILLIAM, JR.
United States District Judge